

The University of Chicago

AN EVALUATION OF
THE INTEGRATED PROFESSIONAL
CURRICULUM AT MILWAUKEE
STATE TEACHERS COLLEGE

A PART OF A DISSERTATION SUBMITTED TO
THE FACULTY OF THE DIVISION OF THE
SOCIAL SCIENCES IN CANDIDACY FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATION

JUNE, 1943

By

VIVIAN VIRGINIA EDMISTON

CHICAGO, ILLINOIS

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CHAPTER I

THE PLAN OF THE EVALUATIVE STUDY

The Problem

The present study was devised to determine strengths and weaknesses of the integrated program offered in the Kindergarten-Primary Division and the Elementary Division of Milwaukee State Teachers College. The integrated program is a year of unified professional work provided as a means of interrelating practice in teaching with educational theory. It is set up to further student growth in professional competence. However, providing for integration and for professional development does not necessarily guarantee their achievement; their presence or absence must be established experimentally. This study was a means of doing that in a given situation.

Leading educational thinkers have claimed that integration is valuable and have pointed out disadvantages of compartmentalization. James Harvey Robinson wrote: "These departments of knowledge, great and small, correspond to a necessary division of labor, and have, of course, a great significance in research, but they form one of the most effective barriers to the cultivation of a really scientific frame of mind in the young and the public at large."¹ A. N. Whitehead said: "The solution which I am urging is to eradicate the fatal disconnection of subjects which kills the vitality of our modern curriculum."² Yet only currently has anyone in educational research attempted to study the validity of claims made for integration.³

Perhaps an integrated program is valuable. But it may be

¹James Harvey Robinson, The Humanizing of Knowledge, p. 63. New York: George H. Doran Company, 1923.

²A. N. Whitehead, The Aims of Education and Other Essays, p. 10. New York: The Macmillan Company, 1929.

³Artie E. Burke, "A Study of Integration of Theory and Practice in the Preparation of Secondary Teachers." Unpublished Doctor's thesis, School of Education, Indiana University, 1940.

less effective in the education of teachers than is an assemblage of separate courses. Perhaps it is equally effective; or perhaps it is superior. Before conclusions can be reached concerning the comparative effectiveness of different programs, the respects in which each is effective must be identified. Determining strengths and weaknesses in a particular integrated program, namely that offered for kindergarten and elementary school teachers at Milwaukee State Teachers College, was the problem of the present study.

Significance of the Problem

Several aspects of the present study are noteworthy. For one thing, it was a project of a departmental staff which undertook it as one phase of a larger staff enterprise. The members of the Department of Education and Psychology at Milwaukee State Teachers College as a faculty group have attempted to develop an integrated program in harmony with the educational philosophy of the college. As President Baker has pointed out,¹ faculty members conceived a program designed to meet the needs of students both as individuals and as prospective teachers. The aim of the staff was to give students a unified experience in which educational theory and practice teaching were intimately associated. That the integrated program thus conceived was and is under constant surveillance was pointed out by Mr. Adams, director of the training school. He said:

The group directors and the training teachers have felt all along that the plan is evolutionary and that we should be on the lookout for ways and means of improving the training of teachers. No one of us would agree that we have at last reached the complete answer to the problem of planning the best professional experience. There is a general feeling, however, that we are making progress and that the plan has many advantages over the older procedure.²

This interest of the staff in improvement of the integrated program culminated during the 1940-41 school year in the present evaluative study. The staff felt that the study should make apparent those aspects of the program which were satisfactory, should point out phases of the program which were least adequate, and

¹Frank E. Baker, "Educating Teachers by the Experience Method," Childhood Education, XII (December, 1935), 101-8.

²Frank Adams, "Integration of Professional Education," Curriculum Journal, X (March, 1939), 114-16.

should suggest further possible improvements.

In undertaking an evaluative study co-operatively, the staff of the Department of Education and Psychology at Milwaukee State Teachers College attacked one of the major problems in teacher education. Furthermore, they were attacking it in the manner suggested in a report of a committee of the American Council on Education:

...the work must be done by the members of faculties and others directly and indirectly concerned with teacher education. The objectives must be their objectives and be developed by them. Before faculties will attempt this task, they must feel keenly the need for objectives. The problem must be raised therefore to the level of urgency within the profession.¹

The present study is noteworthy also as an example of an intramural evaluative study, that is an evaluative study in which the objectives of an institutional program are the frame of reference for its appraisal. Such a concept of evaluation was used by Ralph W. Tyler while director of the evaluation staff for the Eight Year Study. In working with the "Thirty Schools," he "set out to help each school to evaluate its work in relation to its own goals."² The Co-operative Study in General Education³ also has an evaluation program in terms of institutional objectives. The present study made use of the objectives of the integrated program at Milwaukee State Teachers College as a frame of reference with which to study the effectiveness of the program, and obtained evidence concerning each major objective of the program, other than those dealing with certain aspects of personality.

The present study presents an interesting contrast to earlier studies of teacher education. Previous studies, such as those by Cooper and Evenden;⁴ the North Central Associa-

¹Problems and Plans Committee of the American Council on Education, Major Issues in Teacher Education, p. 25. American Council on Education Studies Series I, Vol. II, No. 4. Washington, D.C.: American Council on Education, 1938.

²Harry H. Giles, S.P. McCutcheon, and A.N. Zechiel, Exploring the Curriculum, p. xvii. "An Adventure in American Education," Vol. II. New York: Harper and Brothers, 1942.

³Louis Heil, "Determining Objectives of Science Instruction for General Education," Educational Record, XXIII (January, 1942), 94-105.

⁴William J. Cooper, and Edward S. Evenden, National Survey of the Education of Teachers, Vols. I-VI. Washington, D.C.: U.S. Government Printing Office, 1933, 1935.

tion;¹ and Works, Peik, Judd, et al.,² have been surveys which were concerned primarily with what programs provided in the way of personnel, facilities, and events. The present study is concerned with the changes that are brought about in students through their participation in the program. In this respect the study is similar to the "Evaluation Program of Teacher Education" at Ohio State University, which was "concerned with continuously evaluating the student."³ An evaluative study centers its attention on students and makes "its analysis in terms of exhibited behavior."⁴

Other points of contrast between surveys and evaluative studies lie in the extent of student and faculty participation in defining program objectives and measuring their attainment. ". . . many of the surveys have been concerned primarily with administrative matters, not with classroom instruction and problems of student personnel."⁵ The problems of the survey, and therefore of its report, are seldom, if ever problems formulated by the faculty. On the contrary, "in some surveys the entire report is organized around a series of specific questions to be answered, sometimes formulated by an outside body, sometimes by the survey agency itself."⁶ Nor are the techniques used in surveys those that entail faculty participation to any great extent. "Although the importance of personal visits to supplement scientific data by direct personal contact with individuals, institutions, and conditions involved, is commonly recognized, they appear to have

¹North Central Association of Colleges and Secondary Schools, Committee on Revisions of Standards for Higher Institutions, Evaluation of Higher Institutions, Vols. I-VII. Chicago: University of Chicago Press, 1935-37.

²G.A. Works, W.E. Peik, C.H. Judd, et al., "Survey Report on Iowa State Teachers College." Unpublished report, Iowa State Teachers College, 1936.

³Louis Rath, in collaboration with others, "Evaluation Program of Teacher Education," Chapter VIII of Adventures in the Reconstruction of Education, pp. 211-240. Columbus, Ohio: Ohio State University, College of Education, 1941.

⁴Giles, McCutcheon, and Zechiel, op.cit., p. 18.

⁵Walter Crosby Eells, Surveys of American Higher Education, p. 121. New York: The Carnegie Foundation for the Advancement of Teaching, 1937.

⁶Ibid., p. 140.

been used in little more than two-thirds of the surveys studied."¹ "The use of standardized tests of ability and of achievement has become a commonplace of public-school surveys,"² although not of surveys of higher education; "certain facts may explain this lack, even if they do not justify it."³ "The method of subjective judgment of one or more competent judges is a necessary factor in practically all of the reports, and always will be."⁴ Both in defining institutional objectives and in selecting methods with which to study them, surveys seem to have emphasized generally accepted practice and the opinion of educational leaders as to what ought to be done.

Evaluative studies, on the other hand, emphasize institutional objectives and involve faculty and student co-operation in defining them and in setting up devices with which to measure them. The current study of the Department of Education of Stanford University⁵ illustrates faculty participation in evaluation; the recent study of the freshman program for prospective teachers at Ohio State University⁶ illustrates student participation.

Assumptions of the Study

In carrying out the evaluative study of the integrated program for kindergarten and elementary school teachers at Milwaukee State Teachers College, it was necessary to make certain assumptions. One of these is characteristic of an intramural evaluative study. It was assumed that the objectives of the integrated program, when made explicit, are a frame of reference with which to evaluate the effectiveness of that program.

The program objectives can be thought of as being of two kinds, those which are generally in use in the education of kindergarten-primary and elementary school teachers, and those which are unique at Milwaukee State Teachers College. The generality of some objectives would probably be due to two circumstances.

¹Ibid., p. 108.

²Ibid., p. 120.

³Ibid., p. 121.

⁴Ibid., p. 134.

⁵The study was carried out by Daniel MaNaughton as one requirement for a Ph.D. degree at Stanford University, 1941-42.

⁶Jean Failing, "An Evaluative Study of the Freshman Program for 1938-39 in the Ohio State University College of Education," Abstracts of Doctoral Dissertations, 1940, pp. 189-95. Columbus, Ohio: Ohio State University, 1940.

The staff of the Department of Education and Psychology at Milwaukee State Teachers College has spent considerable time at recognized professional institutions. Furthermore, its members have had wide professional experience. It would be probable that their objectives would have considerable validity as objectives of teacher education. At the same time, it is to be expected that the objectives formulated within any one institution are unique. ". . . teacher education has been differently conceived in different institutions."¹ Certainly institutions differ in the range of information that their graduates have about professional education, as shown by scores on the National Examination for Teachers.² The graduates of certain institutions maintain from year to year on that examination a comparatively constant position relative to graduates of other institutions.

Incidentally, it follows from the uniqueness of the objectives of the integrated program that findings of the present study are limited in application. Only those institutions having programs preparing teachers similarly and having corresponding objectives should be concerned with the findings of the present study. However, the methods of the study are widely applicable.

It was further assumed that the objectives of the integrated program could be defined operationally. Such operational definitions³ would be in terms of what a teacher is expected to do in certain situations. An example might be: It is expected that a teacher will read professional books. A precedent for the use of program objectives in terms of behavior is to be found in

¹Problems and Plans Committee of the American Council on Education, op. cit., p. 24.

²John C. Flanagan, "An Analysis of the Results from the First Annual Edition of the National Teacher Examinations," Journal of Experimental Education, IX (March, 1941), 237-250.

³The forthcoming Encyclopaedia of Modern Education, edited by Harry N. Rivlin, is expected to include the following statement:

"Operational Definition: An operational definition is a statement made so as to be immediately translated into effective action. The operational definition of curricular objectives makes it possible to devise instruments and techniques of evaluation. Such statements of objectives are most often in terms of behavior expected of students in certain situations. The objective, 'to develop skill in typing' might be defined operationally as: 'to write forty words a minute net with no more than two errors.' The latter definition makes it possible to determine whether a student achieves the objective."

the Eight-Year Study. The discussion of assumptions underlying that study includes the following statement:

. . . . An educational program is appraised by finding out how far the objectives of the program are actually being realized. Since the program seeks to bring about certain changes in the behavior of students, and since these are the fundamental educational objectives, then it follows that an evaluation of the educational program is a process for finding out to what degree these changes in the students are actually taking place.¹

It was assumed also that program objectives could be evaluated through the use of appropriate instruments. These would be in terms of behavior expected of teachers graduated from the integrated program. The use of instruments showing teacher behavior was in preference to two other choices: (1) Suitable instruments showing changes in boys and girls could have been used in classes taught by graduates of the integrated program. (2) Ratings of certain teacher characteristics could have been made for graduates from the program.

The use of instruments for measuring pupil changes would involve practical difficulties. Although it is true that, "Perhaps the most direct method for evaluating the functional effectiveness of a teacher is to measure the changes wrought in pupils under his instruction,"² it is difficult to detect pupil changes attributable to the class teacher. At the elementary school level, valid and reliable techniques or instruments for measuring pupil changes are lacking for the most part, except for changes in skills and in the acquisition of factual information. Such evaluative devices as do exist³ involve an expenditure of time out of proportion to the amount of data obtained about the teacher. At the kindergarten level, valid and reliable techniques for studying pupil changes are even more difficult to devise and apply. Although

¹Eugene R. Smith, and Ralph W. Tyler, Appraising and Recording Student Progress, p. 12. An Adventure in American Education, Vol. III. New York: Harper and Brothers, 1942.

²Gilbert L. Betts, "The Education of Teachers Evaluated through Measurement of Teaching Ability," National Survey of Education of Teachers, Vol. V, p. 87. U.S. Office of Education Bulletin 1933, Number 10, Volume V. Washington, D.C.: U.S. Government Printing Office, 1933.

³J. Wayne Wrightstone, Appraisal of Newer Elementary School Practices, pp. 163-64. New York: Bureau of Publications, Teachers College, Columbia University, 1938.

especially Barr¹ and certain of his students² have been active in trying to establish a valid index of teaching success in terms of changes in pupils, to do so is not yet practicable. Nor is it possible at present to study the effectiveness of a program in terms of changes in pupils taught by those graduated from the program.

In evaluating the integrated program, care was also taken to avoid the use of personal ratings. This precaution was taken primarily because of the work of Sandiford³ who reviewed studies which assumed that a teacher is proficient if he is rated so by an expert or a group of experts. On the basis of that review and an elaborate study carried out by himself and his associates, Sandiford concluded that rating was not an acceptable means of determining superior teachers. There is no evidence that rating of teacher proficiency is reliable and valid as an evaluation technique.

One other assumption was that a status study can be used in determining strengths and weaknesses of a program preparing teachers. In the present study three groups were considered: students about to begin their professional education program with its integrated year, students concluding their professional preparation at Milwaukee State Teachers College, and classroom teachers who had been graduated from the integrated program. Comparisons of the characteristics of these groups showed immediate changes in students through participation in the integrated program, and delayed changes occurring in service. The comparisons also showed whether changes attributable to the integrated program persisted in service. Such comparisons should be made in a status study only if the specific student and teacher groups dealt with are typical, and are comparable among themselves in certain significant respects. In the present study, considerable evidence showed that

¹William Henry Lancelot, A.S. Barr, et al., Measurement of Teaching Efficiency, pp. 73-141. New York: The Macmillan Company, 1935.

²Leon E. Rostker, "The Measurement and Prediction of Teaching Ability," School and Society, LI (January 6, 1940), 30-32.

³Peter Sandiford, M.A. Cameron, C.B. Conway, and J.A. Long, Forecasting Teaching Ability, pp. 1-93. Bulletin No. 8, Department of Educational Research, University of Toronto. Toronto, Canada: University of Toronto Press, 1937.

groups were typical, and similar except for the critical factor of professional maturity.

The status study method has the major advantage of being carried out in a short time, since all groups can be studied simultaneously. Usually it has a major disadvantage in the statistical interpretation of observed differences among groups. These differences must be neglected unless they are sufficiently sizeable to be due to more than chance variations among groups. However, in the present study, the neglect of all but gross differences is an advantage of the status or cross-sectional method. Actually the integrated program is not a single program carried on each year as it was in preceding years, but is a program almost constantly involving small fluctuations and improvements. Furthermore, within a given year it is not a single program but a summation of as many programs as there are conference groups within it. Such diversity within the program would make especially fine measurements and statistical methods inappropriate.

The status or cross-sectional method was used in the present study in preference to the longitudinal method in which a group of typical students would have been measured as they entered their professional preparation, later as they concluded it, and subsequently as they were in actual service. Such a study would have had the advantage of giving a great deal of information about one group of students who became teachers. The extent to which generalizations could be drawn from the study would have been dependent on the selection of the people studied, and would have involved hazards of small sampling.

Method of Carrying on the Evaluative Study

The general procedure of the evaluative study consisted essentially of four parts:

1. Making explicit the objectives of the integrated program to be evaluated.
2. Setting up evaluative instruments suitable for measuring the attainment of objectives of the program.
3. Obtaining responses to the instruments, and analysing those responses statistically.
4. Comparing present attainment with expected attainment of objectives to determine implications for further development of the program.

In making the objectives of the integrated program explicit, the evaluator conferred first with each of the group leaders, that is those professors of education responsible for one or two groups of students participating in the integrated program. In each such conference, a statement of the group leader's objectives for his groups was obtained. This statement of objectives was checked against those objectives the evaluator thought implicit in the activities of the student groups, and implicit in evaluative devices used by the group leader. Further conferences with each group leader verified the similarities between stated and implied objectives and eliminated the few differences. A composite of the statements of individual group leader's objectives was then extended and verified as program objectives. Interviews with critic teachers were one means of doing this. Another means of verification was previously formulated statements of objectives available in written form. Finally, the composite statement was checked against the opinions of students in the program, of teachers graduated from the program, and of administrators hiring graduates. This procedure was carried out to make sure that no objective listed was in conflict with those thought important by program participants or their employers.

Since no instruments which would provide evidence concerning the objectives of the program were available, they had to be constructed. The group leaders worked with the evaluator in devising suitable instruments designed to be objective, valid, and reliable.

Responses to the devised instruments were obtained from comparable groups within both the kindergarten-primary Division and the Elementary Division. Responses of second semester sophomores and first semester juniors were combined in each of the divisions to constitute a pre-program picture. Responses of graduating seniors showed the post-program picture, and the differences between pre-program and post-program responses showed the immediate effectiveness of the program. By studying the responses of graduates who had completed the program within the last five years, both persistence of program effects and the existence of effects occurring after the completion of the integrated program could be determined.

In the study of responses to instruments, data obtained for each individual were combined with comparable data for others

in the group, and comparisons were made among groups as units rather than among groups as aggregates of individuals. This was done as a means of limiting the study to its original problem: What is the effectiveness of the integrated program? Practical considerations of time and cost made it necessary to consider only this main problem. The use of data for groups involved two major disadvantages. In the first place, combining data always involves a loss in interpretations. In the second place, obscuring of individual scores within group scores prevented individual students or teachers from having the record of their own behavior. Had individual scores been kept, they could have been of inestimable value in the guidance of each participant in the study. However, for the study of a program, the use of group scores as statistical units was most appropriate.

CHAPTER II⁺

THE INTEGRATED PROGRAM

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Placement of the Integrated Program in a Student's Four-Year Program

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Entering upon his professional training, the student at Milwaukee State Teachers College has one year of practice teaching integrated with educational theory, and two semesters for course work. Usually the student has one of these two semesters preceding the integrated year and one following it. They enable him to fulfill such formal requirements for graduation as the presentation of a major subject, two minor ones, and a number of electives sufficient to provide the total number of credit hours required for graduation. The second half of his Junior year and the first half of his Senior year usually constitute the full year of the integrated program. A description of how this program functions is in order at this point.

Functioning of the Integrated Program¹

Administrative Arrangements

Administrative arrangements of the integrated program have been described by Frank Adams, Director of the Training School:

The administrative plan of procedure is of this nature. Twelve or fifteen students are assigned to what we call a

⁺Pages 18 to 31 are excerpts from chapter 11 of the complete dissertation, which is to be found in the University of Chicago Libraries.

¹Since this section was formulated, a description of the integrated program as it now operates has been written by the Head of the Psychology Department at Milwaukee State Teachers College:

William W. Biddle, "Workshop Method in Teacher Training," Educational Administration and Supervision, XXVIII (September, 1942), 426-37.

group director. These students are also assigned to a classroom in the campus training school or in the near-by city co-operating schools. Not more than six students are assigned to a room in the training school and not more than three students are assigned to a classroom in the neighboring city schools. The classroom teacher and the group director direct these students with respect to the observation of children and teaching procedures. As early as possible there is some simple participation by the student in some of the activities of the room. There is no set time when the student begins his actual teaching experience. This depends entirely upon the individual degrees of readiness on the part of the students and also the particular program in the classroom. The student spends approximately one-fourth of the day in this classroom. The group director has a daily conference with all of the students of his or her group. The training teacher also has conferences with those students assigned to her room. In some cases this conference with the training teacher occurs daily. At times the training teacher and group director are together in their conferences with the students. This is very desirable, but not always possible. There are times when a specialist in some particular field may be called in, such as a specialist in the teaching of reading, or a specialist in the teaching of arithmetic, or a specialist in the teaching of social studies. While the group director and training teacher take care of the major part of the techniques these specialists may be called in on special phases of the work.

All of the student groups are called together frequently for a general forum which is directed by the head of the Education Department. The programs of these forum meetings are made up of special speakers, panel discussions, and general discussions of current educational and social problems.¹

The forum meeting for the past year has been regularly scheduled to assemble once each week in place of the group conference scheduled for that day. It has operated as a central seminar in which topics thought to be of concern to each conference group are discussed. Articulation between the forum and the conference groups is made possible through a forum steering committee consisting of an elected student representative and the group leader from each conference group participating in the forum. Each student committee member brings suggestions from his group to the central committee and takes back to his group the tentative proposals and questions of the steering committee.

The assignment of students to conference groups and to practice teaching situations in both the Kindergarten-Primary and the Elementary Divisions has been discussed succinctly by Presi-

¹Frank Adams, "Integration of Professional Education," Curriculum Journal, X (March, 1939), 114-16.

dent Baker, using statements by Dr. Ayer to some extent:

When the candidates are ready for their professional education they are apportioned by the director of their respective divisions into groups from eight to twelve in number, each group under the direction of a leader.

"Groups of from 8 to 16 students are placed under two faculty members--one a group leader who was either a supervisor or teacher of education under the old plan, the other a training teacher. A given group of students keeps the same group leader throughout the year but the training teacher changes, usually every quarter. No specific courses are planned though professional needs and interests have proved to be such that the integrated year's work draws from the traditional professional subjects--educational psychology, educational philosophy, mental hygiene, techniques of teaching the various school subjects--especially reading and arithmetic--curriculum construction, and educational measurements.

"From four to six students of a group are placed in a given classroom of the Training School; for example, the fourth grade, and this is considered the home room for nine weeks."¹

It can be added that the student enrolled now in the integrated program is assigned each quarter to one of several schools: a public school of Milwaukee, a rural state-graded school, one of three rural (one-room) schools, a vocational or adult school, or the training school at Milwaukee State Teachers College. Of the four assignments the student has during the integrated year, at least one assignment is in the training school, and at least one is in a public school. The four assignments are selected so as to give him experience with the grade level in which he is most interested, and probably experience with the grade level immediately below and above that level. In each assignment, an attempt is made to keep the ratio of student teachers to pupils as small as possible, so that greater opportunity for responsibility in teaching can be given to each student. For most students, in at least their last quarter, a two weeks period of intensive practice teaching is arranged, a period in which sole responsibility for a part of the school day rests with the student teacher.

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 Grades and credits for the integrated program are assigned at the end of the year in such a way as to conform with the reporting of student work in other parts of the college. This conformity is considered necessary since "Milwaukee State Teach-

¹Frank E. Baker, "Educating Teachers by the Experience Method," Childhood Education, XII (December, 1935), 101-8.

ers College is affiliated for the purpose of transfer of credits, etc., with the University of Wisconsin. Course requirements, etc., are set up so that in general a student may transfer directly to the University with little loss of credit."¹ The present arrangements for giving credit are described by Dr. Billings:

At the end of the year students who take full-time work in the "Experiment" get thirty-two credits distributed so as to meet the requirements of the college for systematic records. These include credits in practice-teaching, techniques of teaching, educational psychology, educational measurements and other education electives. Some students who have slightly irregular programs get less than thirty-two credits in the "Experiment" and take college courses to make the full load.²

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Objectives of the Integrated Program as Used in the Evaluative Study

Fundamental both to the integrated program at Milwaukee State Teachers College and to any evaluation of it were the objectives actually in use in the program. These were implicit in program activities. Students who measured up to them satisfactorily were graduated as teachers. The objectives were partially implicit and partially explicit in writings and conversation of those concerned with the program. They needed only to be identified and then brought together into a comprehensive list in order to constitute a practical basis for evaluating the effectiveness of the integrated program.

These program objectives could be identified, and then stated in either of two ways: (1) They could be given in the usual form of program objectives. (2) They could be stated operationally in a form suitable for immediate use in an evaluative study. In some instances, the two forms may be identical except for their wording. Frequently, however, the operationally defined objective is more specific, and may be a phase of the other form. The distinction between the two forms may be made more clear by an example or two from the present study. One purpose

¹"Report on the Program of Teacher Education at the Milwaukee State Teachers College, Fall, 1931." (Typewritten and unpublished report, on file at Milwaukee State Teachers College, Milwaukee, Wisconsin.)

²Neal Billings, "Efforts to Evaluate the Milwaukee Teacher Training Experiment," Educational Administration and Supervision, XXII (April, 1936), 241-59.

of the integrated program was to develop in students the belief that there should be coöperation. This program objective was stated operationally as: "It is expected that a teacher will believe in coöperation within the classroom, the profession, and the community." A second example illustrates considerable similarity in the two modes of statement. As a program objective, it would be stated: "One purpose of the program was to develop students who participate in cultural activities." As an objective in the present evaluative study, it was stated: "It is expected that a teacher will participate in cultural activities." The second form of stating objectives with operational definitions was used in the present study.

The use of operationally defined program objectives has two advantages in an evaluative study: (1) They center attention on student needs rather than on subject matter or on administrative efficiency, and thus contribute to an objective viewing of the program, devoid of vested subject matter or administrative interests. (2) They are the same kind of objectives that are the basis for selecting or devising evaluative instruments; both kinds of objectives are in terms of what people do. An operational definition of an objective is immediately useful in making an evaluation instrument with which to measure attainment of the objective. A usually defined program objective, on the other hand, must be first changed into an operationally defined one before it can undergo a metamorphosis that results in an evaluation instrument. Needless to say, in the present study the program objectives were defined operationally, directly and without any attempt to obtain a traditional statement of program objectives.

The distinction between an operational definition and a traditional definition of program objectives may perhaps be clarified by further consideration of each. An operational definition is in terms of expected behavior. For instance, in the present study, six aspects of behavior were considered important ones to be developed in those going out to teach, namely: (1) beliefs or attitudes, (2) personal-social relations, (3) interests, (4) overt behavior, (5) skills, and (6) critical thinking.¹ A tradi-

¹The objectives of the integrated program as defined for this study and stated on pages 25-31 illustrate these six aspects of behavior, as follows: beliefs, objectives 1 through 5; personal-social relations, objective 6; interests, objectives 7

tional definition, on the other hand, may be in terms of what a student is expected to be (e.g. A teacher should be tolerant); in terms of what is offered to a student (e.g. A teacher should have studied educational psychology); or in vague and general terms of what a student should have (e.g. A teacher should have a philosophy of life). An operational definition is preferred to a traditional definition for purposes of evaluation because of its greater and more immediate usefulness in determining appraisal techniques.

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Procedure for Making Objectives Explicit

The procedure for making the objectives of the integrated program explicit was primarily a conference method. Initially, the evaluator conferred with each of the group leaders and obtained a statement of the objectives the group leader considered important in the work of his student groups. Since these objectives might be only verbal ones, they were checked against observed activities of those groups. On the basis of personal observations, the evaluator inferred objectives actually in operation. Discrepancies between these objectives and the other set of objectives were smoothed out in further conferences with each group leader, and apparent similarities verified. A comparison of the objectives of each group leader with those of others showed the objectives held in common among the group leaders.

Interviews with critic teachers were used in verifying and extending this composite list. Since an hour could not be spent with each critic teacher, a sampling of critic teachers was made on the basis of grade level of teaching, and availability for interviewing. From each of the two public elementary schools given over entirely to practice teaching and from the training school, at least one teacher was interviewed from the kindergarten or primary grades, from the intermediate grades, and from the upper grades. The comments of the critic teachers for the most part served to corroborate the importance of objectives in the composite list. However, one or two objectives which might otherwise have been shunted aside as individual objectives of a group

through 10; overt behavior, objectives 11 through 15; skills, objectives 16 and 17; critical thinking, objectives 18 and 19.

leader or two became recognizable as program objectives. In each instance, these objectives were ones concerned with the practical side of teacher preparation.

The modified composite list of program objectives was also compared with objectives that were either implicit or explicit in pertinent written statements.

In the present study one other means of verifying the composite list of objectives was used. The list was checked against program objectives mentioned implicitly or explicitly by students in the program, graduates from it, and administrators employing graduates of the program. This was done in order to make certain that no important objective of the program had been omitted, and no objective had been included which was in conflict with those important to program participants and to employers of participants.

The entire procedure by which program objectives were made explicit may be made more clear by considering steps in the identification of one of the objectives, namely: "It is expected that a teacher will read both professional and non-professional books, magazines, and newspapers." Individual conferences of the evaluator with group leaders involved such bits of conversation as the following:

Group Leader: "I want my students to read books and articles by outstanding educators. I want them to have read some of Dewey's books while they are with me, and I expect them to read more of his books later when they are teaching."

Evaluator: "You mean you want them to read books so that they will go ahead in reading more books?"

Group Leader: "Yes, that is what I want. I get a great deal out of my reading and I want my students to be readers, too."

Evaluator: "What kinds of material do you want them to read?"

Group Leader: "Professional books, of course, but other books as well. We give quite a bit of attention to current events in our conference group, and each of us is responsible for having followed the news in at least one paper."

Observation of conference groups showed that in the majority of instances group leaders were making reference to books and arti-

cles that students might read to gain further understanding of some topic. Students were raising questions about assigned and suggested reading. Reading lists and card files of references annotated by students were in use. These circumstances all indicated that students in the integrated program were expected to read both professional and non-professional books, magazines, and newspapers.

Individual conferences with critic teachers revealed a similar expectation on their part. A typical remark of a critic teacher was, "I was telling my student teachers that _____'s book on the teaching of _____ was one of the best books they could read." Another was, "If the students will just read _____ magazine, they will find all the good, practical material they need." Study of written statements concerning the integrated program also showed that reading was expected of students. Such phrases as "after they [the students] have done a variety of reading"¹ were scattered through descriptions of the program. . . .

Further corroboration that reading was expected of students in the integrated program was found in interviews with students. A typical remark was, "We have to do an awful lot of reading. Oh, I suppose we don't really have to, but there's so much that _____, our group leader, tells us about, and we feel we really ought to read it." When the final list of objectives was formulated it therefore included, "It is expected that a teacher will read both professional and non-professional books, magazines, and newspapers."

The Objectives of the Program

At the conclusion of the interview process, the objectives of the integrated program were stated operationally in a form suitable for use in an evaluative study. They are given here with quotations that were part of the evidence of their importance as program objectives. Each objective is stated as a kind of behavior expected of teachers graduated from the integrated program.

1. It is expected that a teacher will believe that there should be freedom for children in the classroom, for teachers in

¹Adelaide M. Ayer, "Integrating Education and Practice Teaching," Ohio State's Educational Conferences, Proceedings of the Twelfth Conference, pp. 416-21.

their profession and in their communities, so long as they do not interfere with the rights of others in the group.

. . . . To aid the student in developing this philosophy:

- a. A belief in democracy as a way of life--derived through experiencing it and through studying other theories of life.
- b. A determination to extend democracy to ¹ areas of life besides government, including education.

2. It is expected that a teacher will believe in coöperation within the classroom, the profession, and the community.

The integrated program is expected to lead to the "development of a sense of social obligation to one's family, one's immediate social group, one's community, etc.; of a sense of individual responsibility in coöperative action in solving social problems."²

3. It is expected that a teacher will believe in the possibility of improvement in pupils, teachers, and community members through educational processes.

President Baker, identifying several advantages of the experience plan, claimed that "it develops a critical professional attitude" and that "it keeps alive professional curiosity."³

4. It is expected that a teacher will believe in the desirability of meeting the needs of children, and in recognizing their interests.

President Baker also said an advantage of the experience plan was that "it gives students the desire to make a beginning in developing an understanding of the need for mental and emotional adjustments among children."⁴

5. It is expected that a teacher will believe in equality on the basis of ability and proficiency and need.

This objective refers to another phase of democracy and is supported by the quotation given with the first objective.

¹Quoted from "Goals of the Integrated Course in Elementary Education" given in the appendix (see complete dissertation in files of the University of Chicago Libraries).

²Quoted from the "General Education Objectives" which were formulated by the faculty committee on curriculum and instruction at Milwaukee State Teachers College in the spring of 1940.

³Frank E. Baker, "Integrated Professional Experiences as the Basis for Learning and as a Substitute for Formal Courses in Education," Proceedings of the National Education Association, 1933, LXXI, 742-56.

⁴Ibid.

6. It is expected that a teacher will attempt to be broadminded both with adults and with children, and will try to recognize the view of the other person while recognizing the worth of his own analysis of the problem.

To develop the student's personality. To develop:

- a. Increasingly mature self-direction.
- b. Increasing interest in education as a social process.
- c. Tolerance and friendliness to those with whom one disagrees.
- d. Sympathetic understanding and approach.¹
- e. Pleasing personal appearance and habits.¹

7. It is expected that a teacher will be interested in the variety of activities which a teacher carries on.

8. It is expected that a teacher will be interested in working with children in large and small groups, and with a single child.

9. It is expected that a teacher will be especially interested in the grade level at which he expects to teach.

10. It is expected that a teacher will be especially interested in some particular content field.

This objective, together with each of the three preceding ones, is supported by President Baker's statement of advantages of the Experience Plan. He said that "it takes advantage of professional interests; it makes the innate interests of the students the great lever in leading them to professional study and experimentation."

11. It is expected that a teacher will take responsibility for various activities of children.

According to Dr. Ayer's description of the integrated program, "there students live with children, absorb the atmosphere of freedom and learn whatever they do learn through experience spurred on by their own curiosity and interest and by the dynamic activities of children."²

12. It is expected that a teacher will take responsibil-

¹Quoted from "Goals of the Integrated Course in Elementary Education," which is given in its entirety in the appendix (see complete dissertation on file in the University of Chicago Libraries).

²Adelaide M. Ayer, "Integrating Education and Practice Teaching," Ohio State's Educational Conferences, Proceedings of the Twelfth Conference, pp. 416-21.

ity in the community of which he is a part. This would imply that he participate in extra-curricular activities during his college days.

One of the faults that President Baker observed in the early stages of the Experience Plan was that "the students engaged in the plan become socially isolated from the rest of the college."¹

13. It is expected that a teacher will participate in cultural activities.

President Baker referred to "cultural education" as one of the "fields of needed experimentation in teachers' colleges. "The teachers' colleges must do a great deal of experimentation with regard to the cultural education of a teacher."²

Dr. Billings, in his study of the integrated program, attempted to get some evidence concerning student participation in certain cultural events. He reports:

Both groups of students (regulars and 'Experimentals') were asked about the influence of their work in the training school on . . . their interest in civic affairs, lectures, and concerts. . . . So far as participation in civic affairs, lectures, and concerts were concerned there was only ³ a slight difference in favor of the 'Experimental' students.

14. It is expected that a teacher will have work experience in its proper relation to educational experience. This implies that students in the integrated program will adjust their work activities in relation to their study activities.

15. It is expected that a teacher will take responsibility in activities of the teaching profession.

That a teacher is a member of a professional group and a participant in a genuine profession has been recognized by those responsible for the integrated program. President Baker, in commenting on the integrated program in 1935, said, "The great weakness of the plan at present is our lack of standards for measur-

¹Frank E. Baker, "Integrated Professional Experiences as the Basis for Learning and as a Substitute for Formal Courses in Education," Proceedings of the National Education Association, 1933, LXXI, 742-56.

²Frank E. Baker, "Experimental Attitude in Teacher Training," Elementary School Journal, XXXII (June, 1932), 736-51.

³Billings, op. cit.

ing professional growth and professional mastery."¹

16. It is expected that a teacher will read both professional and non-professional books, magazines, and newspapers.

This objective was one which Dr. Billings was concerned with in his study of the integrated program. He reports:

Both groups of students (regulars and "Experimentals") were asked about the influence of their work in the training school on the amount of newspaper and magazine reading they did. . . . According to the replies received, sixty-eight per cent of the "Experimental" students read more magazines and newspapers after entering upon their work in the training school while only forty-one per cent of the regular students read more after starting their practice-teaching. Nine per cent of the "Experimental" and thirty-two per cent of the regular students said they read less after their work in the training school had started.²

17. It is expected that a teacher will be able to locate information that is needed by a teacher in his various activities.

Certain of the group leaders were explicit in pointing out that the integrated program should aid each student in gaining knowledge "of where to find data and ideas on professional problems."³

18. It is expected that a teacher will apply educational principles in selecting teacher behavior desirable both with an individual child in a class and with the whole class of children.

Perhaps of all the program objectives this is the most important. Certainly it has been mentioned most often by those who comment on the integrated program. The Director of the Training School pointed out that: "Student-teachers are in great need of guidance in application of principles in teaching activities as but a third of the group are able to apply principles on their own initiative as judged by the rating given."⁴ He also said: "Student-teachers who continually show no capacity for ap-

¹Frank E. Baker, "Integrated Professional Experiences as the Basis for Learning and as a Substitute for Formal Courses in Education," Proceedings of the National Education Association, 1933, LXXI, 742-56.

²Billings, op. cit.

³Quoted from "Goals of the Integrated Course in Elementary Education" given in the appendix (see complete dissertation on file in the University of Chicago Libraries).

⁴Frank Adams, "Educational Principles in Practice Teaching," Educational Administration and Supervision, XXIV (January, 1938), 61-68.

plying principles even when closely directed should not be encouraged to enter the teaching profession."¹ The group leaders, in formulating "Principles Governing Professional Preparation of Teachers" in 1935, made the statement that ". . . the understanding of and the ability to apply educational principles is a fundamental objective. . . ."² One of the possible advantages of the integrated program which Dr. Billings asked about in his study of the program was stated as: "In the 'Experiment' techniques are learned as needed and are put into more immediate use. This makes for greater efficiency of learning."³ Dr. Billings reported that "all groups, even the college teachers, give this statement a very high positive advantage score. . . ."⁴

19. It is expected that a teacher will, in working with an individual child, recognize various possible explanations of his behavior while remaining open-minded with regard to them; seek further information about the child; and deal with him as a member of the class in such a way as to further his growth and development.

That this also is one of the most important of the program objectives is shown by the frequency of its mention by those concerned with the program. The former Director of the Training School in describing reactions of some of the first students participating in the program mentioned that "the students began to be interested in the children as individuals and to be curious about certain problem children and the causes."⁵ The present Director of the Training School feels that "child growth or maturation with respect to continuity of activity might to advantage be given greater emphasis."⁶ Dr. Adelaide Ayer was of the opin-

¹Ibid.

²The entire statement of "Principles Governing Professional Preparation of Teachers" is on file at Milwaukee State Teachers College.

³Billings, op. cit.

⁴Ibid.

⁴Adelaide M. Ayer, "Learning Educational Principles through Experience," Educational Administration and Supervision, XVII (May, 1931), 357-62.

⁵Frank Adams, "Educational Principles in Practice Teaching," Educational Administration and Supervision, XXIV (January, 1938), 61-68.

ion that "the experimental students know how to guide children better than do other students."¹

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The objectives of the integrated program can be thought of from each of two points of view. They can be considered in terms of the kind of teacher behavior involved, and can be stated as the foregoing nineteen program objectives. They can also be considered in terms of the kind of situation in which teacher behavior is evidenced. Such situations are of three kinds: (1) classroom situations, (2) professional situations, and (3) parental and community situations. This double viewing of program objectives is especially useful in two respects. In the first place, it makes possible the construction of evaluation devices with which two kinds of data may be obtained simultaneously, data regarding kinds of teacher behavior and data regarding the situations in which teacher activities are carried on. In the second place, it makes possible the description of strengths and weaknesses of the integrated program from two points of view. The program can be considered in respect to the nineteen program objectives already enumerated or any grouping of them. It can be considered, too, in respect to the following classification of objectives, a classification that cuts across the first one:

1. It is expected that a teacher will evidence understanding of how to work with children, especially in classroom situations.

2. It is expected that a teacher will show understanding of how to work with other teachers in professional situations.

3. It is expected that a teacher will show understanding of how to work with parents and other members of the community. Both classifications will be used successively in summarizing the findings of the present study.

¹Adelaide M. Ayer, "Integrating Education and Practice Teaching," Ohio State's Educational Conferences, Proceedings of the Twelfth Conference, pp. 416-21.

CHAPTER III⁺

THE METHOD OF EVALUATION

Instruments Devised

In order to measure the attainment of the objectives of the integrated program, suitable evaluative instruments were necessary. A search of published tests¹ showed none that were constructed to measure objectives like any of the nineteen identified for the integrated program. Steps were taken to devise appropriate tests. The task was a large one inasmuch as the completed set of instruments had to be as comprehensive in scope as were the program objectives. Evidence was to be obtained in relation to each of the nineteen objectives.

The nineteen program objectives could be grouped for purposes of evaluation under a smaller number of headings. Objectives whose means of appraisal would be similar could be brought together. This was done and objectives were grouped according to the kind of behavior expected. Eight groupings resulted. These groupings of program objectives, together with the evaluation instruments developed to study each grouping, were as follows:

Program Objectives:

Instruments Developed:

It is expected that a teacher:

A. Will believe:

B. "Educational Attitudes" Form A, and Form B.

1. In freedom for children in the classroom, for teachers in their profession and in their communities. (1) ²
2. In coöperation within the classroom, the profession, and the community. (2)

⁺Pages 43 to 52 are excerpts from chapter iii of the complete dissertation, which is to be found in the University of Chicago Libraries.

¹Oscar K. Buros, The Nineteen Forty Mental Measurements Yearbook. Highland Park, New Jersey: Mental Measurements Yearbook, 1941.

²The numbers in parentheses refer to the numbering of the objectives as they were listed in chapter ii.

3. In the possibility of improvement in education. (3)
 4. In the desirability of meeting the needs of children, and in recognizing their interests. (4)
 5. In equality of opportunity. (5)
- B. Will attempt to be broadminded both with adults and with children. (6)
- C. Will be interested in:
1. The variety of activities which a teacher carries on. (7)
 2. Working with children in large and small groups, and with a single child. (8)
 3. The grade level at which he expects to teach. (9)
 4. Some particular content field. (10)
- D. Will:
1. Take responsibility for various activities of children. (11)
 2. Take responsibility in the community of which he is a part. (12)
 3. Will participate in cultural activities. (13)
 4. Will have work experience in its proper relation to educational experience. (14)
 5. Will take responsibility in activities of the teaching profession. (15)
- E. Will read both professional and non-professional books, magazines, and newspapers. (16)
- F. Will be able to locate information that is needed by a teacher. (17)
- G. Will apply educational principles. (18)
- H. Will, in working with an individual child, recognize various possible explanations of his behavior while remaining open-minded with regard to them; seek further information about the child; and deal with him as a member of the class in such a way as to further his growth and development. (19)
- B. "Objective Attitudes in Personal Relations."
- C. "Interest Instrument," and "Interest Index"
- D. "Activities of a Student," and "Activities of a Teacher."
- E. "Inventory of Reading."
- F. "Locating Information as a Teacher."
- G. "Factors in Working with a Child," and "Factors in Working with a Class."
- H. "The Case Study Instrument."

The group leaders were interested in carrying the evaluative study further, and offered to work with the evaluator in devising suitable instruments. Each group leader agreed to work on instruments for studying those objectives in which he was most interested. At once small working committees were set up, composed of from two to seven group leaders and the evaluator. Eleven committees worked on instrument construction, a committee for each of the eleven groupings of objectives.

Each committee was faced with essentially the same problems in test construction. The first problem was that of analyzing the objective to be measured, seeing what its component parts were and identifying essential parts and critical parts to be studied by the test for the objective. Obviously a test to be given within a limited length of time had to be concerned with only certain phases of the objective. The selection of these phases for use in a test was important in the construction of a testing device. This analytical and sampling process may be clarified by an illustration.

A test was needed to secure evidence concerning the ability of a teacher to "locate information needed by a teacher in his various activities." An analysis of what constitutes "locating information" was made in terms of several processes to be carried out in succession:

1. Identifying a problem situation as one in which further information is needed.
2. Identifying the kind of information needed in relation to the specific problem.
3. Recalling sources from which such information could be obtained.
4. Identifying other sources of pertinent information.
5. Considering the advantages and disadvantages of each source in relation to the particular problem.
6. Deciding which sources would be more likely to have the needed information.
7. Using the more likely sources in obtaining the desired information.

Clearly, an instrument with which to study the ability of a teacher to carry on each one of these processes would be lengthy. An instrument was devised, therefore, to deal with only a sampling of the processes. Steps five and six were the

two selected for study. "Locating Information as a Teacher" was constructed to get evidence concerning them.

This first phase of analysis and sampling of a program objective was followed by a second. The first sampled the behavior expected; the second sampled the three situations in which such behavior would be shown. These were:

1. Situations in which the teacher works with children.
2. Situations in which the teacher works with others in his profession.
3. Situations in which the teacher works with parents and other members of his community.

The description of the construction of the test, "Locating Information as a Teacher," can be extended to clarify this second sampling process. Attention was first given to "situations in which the teacher works with children." A list was made of problems that arise in such situations and require getting information. When it was noted that each problem situation was one in which a school subject was involved, a listing of those subjects was made--arithmetic, reading, geography, music, and so on. Then the problems already proposed for the test were identified according to the subject involved. Where some subjects had been less well sampled than others, additional problems were incorporated in the test. Where some subjects had more problems than were needed, the most frequently occurring problems were retained and the others discarded. By this whole process, it was assured that the test would sample situations in which the teacher works with children in the classroom. In an analogous way, it was assured that the test would also sample situations in which the teacher works with professional colleagues, and situations with parents and others in the community.

Actually each of these sampling processes was an informal one. Members of the working committees made such remarks as, "Of these situations which I wrote up from my own experience, I'm not sure that number three is really one that would occur very often in a teaching situation. Let's not put it in," or "Only yesterday one of my former students came in with a tale of woe very much like that second example. Be sure to include that one in the test."

The analyzing and sampling process for certain groupings of objectives sometimes had more than two phases. Sometimes the

teacher behavior to be appraised seemed to depend on the grade the teacher was working in. Then it was necessary to include as many test items pertaining to one grade as to another. Sampling with respect to grade levels was sometimes supplemented or replaced by sampling with respect to some other critical factor in the analysis of the objective.

Each phase of the analyzing and sampling process was essentially the same. The objective to be studied was analyzed into two or more categories (for instance, behavioral categories, and/or situational categories). Either all or a sampling of these categories was used as categories of items in the test. Then within each category representative items were devised and all or a sampling of them actually used in the test.

The limit to which analysis and sampling of program objectives could be carried was determined by practical considerations about the test. If the test was to be given within half an hour, only a certain number of items could be included, and only a certain amount of analysis into categories and sampling within categories was possible. Extended analysis would result in numerous categories some of which might have only a few items. A sample of a few items must be especially well selected if its item responses are to be interpreted validly in terms of the categorical population from which the sample is drawn. Essentially the limit to the analyzing and sampling process in test construction is in terms of the reliability and validity of interpretations to be made from the test.

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Groups of Students and Teachers in the Study

In determining the effectiveness of the integrated program, groups were selected in accord with the design of the study. Students about to begin the integrated program, second-semester Sophomores and first-semester Juniors, were tested. Their responses constituted the pre-program picture, and could be compared with responses of those about to be graduated. This comparison showed the immediate effectiveness of the program.

A comparison of the list of those students participating in the study with those enrolled in the student groups showed some absence from the testing situation. A random, but small sample of absentees was interviewed to determine if any biasing

factor relative to the tests was operating. None was found. Invariably absence was due to illness, to necessary attendance at a conference for which Milwaukee State Teachers College was host, or to failure to receive a letter because of a clerical error in sending out invitations.

To study both delayed and persistent changes in those who had participated in the integrated program necessitated coöperation of teachers graduated from the program. Accordingly, lists were made of those who had been graduated from the integrated program since its adoption throughout the Kindergarten-Primary and the Elementary Divisions. Those graduated on or after June, 1935, but not subsequent to June, 1940, were listed if they had been available for teaching for at least the school year of 1940-41.

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Homogeneity of graduate groups.--The two graduate groups formed, one in the Kindergarten-Primary Division and one in the Elementary Division, constituted under 10 per cent of the original list of graduates. This circumstance made it especially important to investigate both the homogeneity of the graduate groups and their comparability to the student groups. Actually the graduate groups consisted of two successive samples. Individuals in one sample responded by mail; those in the other responded in the group situation on the Saturday morning designated. Test scores for these samples were analyzed by a variance of means to see whether differences among groups were significant.¹ The analysis showed that differences could be attributed entirely to fluctuations in random sampling. The two samples from those graduated from the Kindergarten-Primary Divisions were essentially one homogeneous group. So were the two samples from the graduates of the Elementary Division.

Later it was possible to compare the responses of graduates from the Kindergarten-Primary Division with responses of graduates from the Elementary Division. Again the homogeneity of the graduate group became apparent. Where grade level of teaching was not a critical factor, responses of the two graduate groups were similar,

¹The level of significance used throughout this study was 5 per cent, or less.

.....
Comparability of groups.--In a status study such as this, groups investigated should be comparable except for the critical factor of the study. Comparability of student and teacher groups was examined by means of data from the Office of the Registrar. Grade points achieved in the educational major were available. Frequency polygons for the groups showed that the graduate groups, though smaller, were similar to the graduating groups in respect to median, mean, range, and distribution.

Similar comparisons were made among student groups on the basis of grade point averages predicted by the Henmon-Nelson formula¹ at the time that the student was admitted to college. The formula makes use of a student's score on a psychological test and his relative standing in his high school class. Frequency polygons drawn on the basis of predicted grade point averages showed comparability of the Sophomore-Junior group and the Senior group in each division.

On the basis of the only indices of ability available, predicted and achieved grade point averages, there were no significant differences among the groups used in studying the effectiveness of the integrated program. Any differences found among groups were probably due, therefore, to factors other than ability as measured by the Henmon-Nelson formula, or the number of grade points accrued in professional education.

Factors of socio-economic background also affected the groups quite uniformly. The majority of students at Milwaukee State Teachers College are from middle class homes in Milwaukee. Of students admitted between 1932 and 1936, 16 per cent had parents in business and 55 per cent had parents in occupations affiliated with the Milwaukee Federated Trades Council.² This homogeneity of background would make for uniformity of responses to evaluative instruments such as the activity inventories, in so far as they dealt with cultural and work experience. Other responses in the present study probably would be primarily depend-

¹V.A.C. Henmon and F. O. Holt, A Report on the Administration of Scholastic Aptitude Tests to 34,000 High School Seniors in Wisconsin in 1929 and 1930. Madison, Wisconsin: University of Wisconsin, 1931.

²Data from a report on file at Milwaukee State Teachers College.

ent on professional background, rather than socio-economic background.

Professional maturity apparently was the critical factor underlying differences in responses of Sophomore-Juniors, Seniors, and teachers to the evaluative instruments. Part of the maturation factor would be associated with lapse of time but would be less important than other aspects of professional maturation in relation to an appraisal of a professional program. Nevertheless, the existence of minor factors is not to be overlooked in drawing conclusions about the effectiveness of the integrated program.

Typical groups.--In a status study it is necessary that groups studied be typical of groups which have been and will be enrolled in the program. This seems a valid assumption for the present study in view of the following facts:

1. The groups studied were comparable among themselves.
2. The groups were homogeneous.
3. Data from the Office of the Registrar showed:
 - a. The annual per cent of placements has been much the same (about 87 per cent) throughout the five year period in which the integrated program has been given for all students from the Kindergarten-Primary and Elementary Divisions.
 - b. During a similar five year period, the percentage of students admitted annually with predicted grade point averages above 1.3 varied between 52.4 per cent and 69.17 per cent; with predicted grade point averages between 1.0 and 1.29 varied between 11.43 per cent and 19.7 per cent; with predicted grade point averages below 1.0 varied between 12.98 per cent and 30.3 per cent. The classes from which the groups studied were drawn were within these ranges, with respect to predicted grade point averages.
 - c. The percentage of students admitted annually between September, 1936 and September, 1940 and ranked in the top quartile of their high school class varied between 51.9 per cent and 61.72 per cent; who ranked in the low quartile varied between .24 per cent and 2.92 per cent. The classes from which the groups studied were drawn similarly had high and low quartiles within these ranges.

4. The opinion of those concerned with the integrated program was that the groups studied were much the same as groups of other years.

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Interpretations to Be Made

From individual responses to each of the tests, it was possible to obtain scores typical of each of the following groups:

1. In the Kindergarten-Primary Division:
 - a. The Sophomore-Junior group
 - b. The Senior, graduating group
 - c. The teacher group composed of graduates of the program.
2. In the Elementary Division:
 - a. The Sophomore-Junior group
 - b. The Senior, graduating group
 - c. The teacher group composed of graduates of the program.

Three kinds of comparisons could be made among test scores for these groups. First, it was possible to compare each group response on an instrument with the response expected, thus considering actual responses in relation to theoretical responses. Second, for any one group of students or teachers, comparisons could be made among multiple scores on one or more instruments. In this way strengths and weaknesses of each group could be identified. Third, comparisons could be made among groups of successive levels of professional experience, both within each division and within the program as a whole. From each of these comparisons inferences could be drawn concerning the effectiveness of the integrated program.

On the basis of comparisons of actual responses to possible responses, needed program modifications could be inferred. For instance, suppose that the integrated program included several activities calculated to develop objective consideration of professional problems. Suppose further that Sophomore-Juniors about to begin the integrated program responded accurately to 95 per cent of the pertinent test items. Such a finding would be the basis for questioning the desirability of continuing to provide student experience designed only to develop objectivity in professional problem situations. Or suppose some other desired ability were not found in either graduates or teachers. That finding

could lead to provisions for additional experience calculated to develop the desired ability. Thus program modifications would follow from comparisons of actual and possible responses to instruments.

Comparisons among the many scores obtained for a particular group could also suggest program changes. For instance, if Seniors in the Elementary Division were found to mark most accurately test items dealing with a child's intellectual needs and to mark least accurately items dealing with a child's affectional needs, such students should have more experience calculated to develop an understanding of children's emotions. A study of the profile of achievement for any one group would show uneven attainment and would suggest improvements which would make the integrated program more effective.

Comparisons among the groups within a single division and within the program as a whole would indicate the effectiveness of the program in bringing about immediate changes in students, as well as subsequent changes. For instance, suppose that acceptance of a certain professional belief was much greater for a group of Seniors than for a comparable group of pre-program students. Since the Seniors have had the integrated program experience and have had no other professional experience in common, their greater acceptance of the professional belief could be attributed to the integrated program. Suppose further that a comparable group of graduates in service as teachers accepted the belief to the same extent as did the Seniors. Since the teachers have had in common only their integrated experience and their years of professional experience, their belief could be attributed to the integrated program and could be said to persist in service.

The validity of inferences such as the foregoing is dependent on three circumstances:

1. That the instruments used were objective, valid, and reliable means for appraising the attainment of objectives of the integrated program.

2. That the groups of students and teachers participating in the study were comparable, and were each typical of a particular level of professional preparation.

3. That the groups responded to the instruments with essentially the same good rapport.

CHAPTER VI

SUMMARY AND INTERPRETATION OF FINDINGS

Study of the findings for the evaluative instruments leads to recognition of four facts concerning the integrated program. Each of these facts will be pointed out briefly and documented with summaries of findings stated somewhat more generally than were the detailed findings given in Chapter V for each instrument.

In the first place, it is clear that the integrated program is effective in bringing about desired changes in the behavior of prospective teachers. In several instances, testing the null hypothesis that those about to enter the integrated program and those just completing it were two groups within a single population was shown to be false. It was found, for instance, that acceptance of certain educational beliefs was significantly increased during the integrated program. Ability to identify desirable teacher activity in the classroom was also significantly greater at the conclusion of the integrated program. However, use of the instruments developed in this study did not disclose any significant shifts in other phases of behavior--interests in activities of a teacher, for instance, or ability to locate needed information. This circumstance, of course, does not mean that such shifts did not occur. It simply means that, if they did occur, their order of magnitude was so small that they were undetected by such means of appraisal as were used. Their reality was suggested at several points by consistency of findings.

In the second place, the program is not only effective in bringing about immediate changes, but is also effective in so influencing prospective teachers that they profit by experience in service. Illustrative of this fact is their acquisition of belief in freedom of communication and action in so far as it does not interfere with the rights of others. The acceptance of this belief is significantly greater among teachers from the integrated program than among students about to enter it.

In the third place, the integrated program is effective in bringing about changes in patterns of behavior, as well as in a particular phase of behavior. The person graduating from the integrated program is characterized by certain patterns of behavior that differ from those which characterize the person entering the program. Moreover, the pattern of behavior of the teacher in service is again different in certain respects from that of either the entrant or the graduate of the integrated program. Responses to both the activity inventories and the reading inventory showed this clearly. It will be recalled, for instance, that Sophomore-Juniors reported little or no reading of professional literature; Seniors reported primarily reading of professional books; and teachers reported especially reading of professional periodicals. It will be recalled also that Sophomore-Juniors were responsible for groups of boys and girls, and participated in other organized community activities; that Seniors were primarily busy with collegiate activities; and that teachers in service were especially concerned with professional activities, although not to the marked neglect of community affairs or of work with children's groups. Difference in the kind rather than the amount of a particular phase of behavior was also evident in the kinds of children's classroom problems to which students and teachers related educational principles. Sophomore-Juniors were most sensitive to children's need for physical activity; Seniors, to the importance of using democratic processes with a class; and teachers, to the desirability of greater attention to children than to subject matter.

Not only patterns of behavior that shifted with increased professional experience should be noted, but also patterns of behavior which remained the same. There was increasing acceptance of a certain pattern of professional beliefs, rather than acceptance of particular beliefs at one level of experience and of others at another level of experience. The pattern of interests in activities of a teacher and in subject fields did not shift significantly. The kinds of teacher behavior that students thought desirable in the classroom were the ones teachers thought desirable also. The kinds of factors that students thought might influence a child were the same ones that teachers recognized, and the aspects of child behavior of most concern to students were also of most concern to teachers.

A summary of the major findings of the evaluative study in relation to the nineteen kinds of behavior expected of teachers from the integrated program will recall the instances in which behavior changed as a result of the program. These changes were either immediate or delayed, and either within a single aspect of behavior or within a pattern of behavior. The summary, both through its omissions and its inclusions, will serve to describe the product of the integrated program.

Attainment of Program Objectives

Objectives: It is expected that a teacher will:

Findings

1. Believe that there should be freedom for children in the classroom, for teachers in their profession and in their communities, so long as they do not interfere with the rights of others in the group.

1. This belief was acquired after graduation, in service.

Attitudes toward classroom activities were formed within the program. They persisted in service.

Interest in classroom activities was greater than in activities of the profession or the community.

2. Believe in coöperation within the classroom, the profession, and the community.

2. This belief was developed within the program.

3. Believe in the possibility of improvement in education.

3. This belief was developed within the program. It persisted in service.

4. Believe in the desirability of meeting the needs of children, and in recognizing their interests.

4. This belief was developed within the program.

5. Believe in equality on the basis of ability and proficiency and need.

5. This belief was developed within the program. It persisted in service.

6. Attempt to be broadminded both with adults and with children, and recognize the view of the other person while recognizing the worth of his own analysis of the problem.

6. This attitude was well developed in those entering the program. It was not significantly changed either in the program nor in service.

7. Be interested in the variety of activities which a teacher carries on.

7. Such interests were well developed at entrance to the program and persist in the program and in service.

Interest in reading, writing, and planning was greater than in studying and explaining.

Interest in explaining increased somewhat with experience.

8. Be interested in working with children in large and small groups, and with a single child.

8. Such interests were high at entrance to the program and persisted in the program and in service.

9. Be especially interested in the grade level for which he was preparing to teach.

9. On entering the program, interest in the grade level to be taught was already high. It became more clearly defined in the program.

10. Be especially interested in some content field.

10. Interest in personal-social relations was greater than interest in any particular subject area. Interest in reading was high.

Subject interests were high on entrance to the program and remained high in the program and in service.

11. Have responsibility for various activities of children.

11. Underclassmen had responsibility for 1.4 groups, on an average, for a year and a half, with four or five meetings a month. More than half the teachers in service had responsibility for a group or two over a period of years.

Age level of children worked with was related to age level of children to be taught. Two-thirds of the students had informal contacts with children.

12. Have responsibility in the community of which he is a part. (This would imply participation of the college student in extra-curricular activities.)

12. Students participated in three or more extra-curricular activities. Participation in community groups became less with increased professional experience. Teachers belonged to one or two groups, on an average.

12. (Continued) Less than half of the teachers belonged to groups, and only half of those belonging had held office.

Attitudes toward the community were formed in the program and persisted in service.

13. Participation in cultural activities.

13. Practically every student and teacher attended cultural events, with Seniors attending the most.

Teachers attended sixteen events a year, on an average.

Two-thirds of the teachers traveled.

14. Will have work experience in its proper relation to educational experience.

14. More than two-thirds of the students worked.

Two-thirds of the Kindergarten-Primary Seniors did not work during their Senior school year.

15. Take responsibility in activities of the teaching profession.

15. Teachers belonged to two or three professional groups, on an average. Ninety per cent of them participated in educational conferences, school visits, etc., during the year. Sixty per cent reported studying.

One-fourth have gained recognition through writing, speaking, etc.

Attitudes toward the profession were formed in the program and persisted in service.

16. Read both professional and non-professional books, magazines, and newspapers.

16. The average Senior read five or six non-professional books and six or seven professional ones; two or three non-professional magazines and two or three professional ones; and a newspaper or two.

Teachers read fewer professional books but more professional magazines.

17. Be able to locate information that is needed by a teacher in his various activities.

18. Apply educational principles in selecting teacher behavior desirable both with an individual child in a class and with the whole class of children.

19. In working with an individual child, recognize various possible explanations of his behavior, remaining open-minded with regard to them; seek further information about the child; and deal with him as a member of the class in such a way as to further his growth and development.

17. Students entering the program had little of this ability and gained little of it in the program or in service.

18. As far as working with a class was concerned, this ability was developed in the program. It was developed further in service as far as non-scholastic needs of children was concerned.

Ability to identify desirable and undesirable teacher work with a class was developed in the program.

Teachers saw at least one pertinent principle accounting for undesirable teacher behavior, on an average.

19. Ability to analyze a case was developed in the program.

Prospective teachers were more concerned with the scholastic and health needs of children than with their affectional and creative needs.

A fourth fact shown clearly by the findings of the evaluative study is that students and teachers from the integrated program have greater understanding in certain aspects of the program than in others. Specifically, how to work with a class of children is better understood than how to work with an individual child. Furthermore, the teacher's role in relation to both the individual child and classroom groups is comprehended more clearly and in more detail than is the teacher's role in the community or in the profession. This greater understanding is apparent when findings are reviewed with respect to the three kinds of situations with which a teacher is concerned, namely:

1. Classroom situations in which the teacher works with children.
2. Community situations in which the teacher works with parents and other members of the community.
3. Professional situations in which the teacher works with other teachers and with school administrators.

Accordingly, findings will be summarized here with respect to the

following headings: (1) understanding how to work with a child, (2) parental and community relations, and (3) professional development. This summary will give attention especially to those test results which reënforce each other in pointing to a significant finding. It will be limited to a presentation of findings with implications for more important aspects of the integrated program.

Understanding how to work with a child.--Those who have had the integrated program show improved understanding of how to work with an individual child. They analyze what constitutes a basis for working with a particular child in a way that is essentially different from that of students about to have the program.¹ Furthermore, they are more alert to the physical, mental, and emotional factors which may be contributing to a child's behavior. They are more interested in getting further information about a child, and will, to some extent, modify their opinions in the light of additional information.

The integrated program also furthers significantly understanding of how a teacher works with a group of children in a classroom situation.² Seniors are much more certain than were Sophomore-Juniors as to what teacher behavior is desirable, and what is undesirable in working with a class. They understand more fully the relative importance of subjects and children. Furthermore, they are more aware of educational principles which are overlooked or underemphasized in undesirable teacher behavior. Later, as teachers, they will have further understanding of educational principles related to non-scholastic needs of children.

Both students and teachers have pronounced interests in activities carried on by a teacher.³ Of special interest to them are classroom activities, and personal-social relations. Their interest in children is evident, too, in the fact that they are

¹For the benefit of those who wish to recall the particular findings mentioned in this section, in the context of other findings on the same test or of the test itself, reference to the appropriate test will be made in footnotes.

This finding is among those for the "Case Study Instrument." (The findings are discussed in detail in chapter v of the complete thesis.)

²See findings on "Factors in Working with a Child," and on "Factors in Working with a Class."

³See findings on the "Interest Index" and the "Interest Instrument."

doing much reading in the area of child development.¹ On an average, Seniors of the Kindergarten-Primary Division reported four or five books on child development which they recalled reading. Seniors of the Elementary Division did more reading in other areas. However, each of them reported using a book or two on child development, on the average.

Basic attitudes or beliefs about what should be done in the classroom are formed during the professional education period.² The beliefs of a Senior about what should go on in a classroom differ significantly from the beliefs of a pre-program student. An experienced teacher, graduated three or four years earlier, has beliefs which are essentially those he held as a Senior. He believes that children and teacher should work together in carrying out group projects. He believes that each pupil should participate in class activities according to his own abilities, not according to the socio-economic background of his family or some other such characteristic. He believes that classroom activities should take into account both needs and interests of students, and that classroom activities can be experimented with and improved. Such beliefs form in the mind of the student and persist in the mind of the teacher. The belief that children have a right to follow their own interests and problems and to move about the classroom only to the extent that they do not interfere with the rights of others in the group is a belief developed through service, rather than through student experience.

Since beliefs and understandings about working with children are formed primarily during student days, it is highly important that desirable teacher attitudes be built in the integrated program. It is important that the program lay a foundation for continued growth in understanding during years in service. Group leaders and critic teachers recognize this when they provide opportunities for studying individual children. Students are encouraged in keeping anecdotal records, in making case studies, and in having informal contacts with youngsters. The Committee on Child Development at Milwaukee State Teachers College is taking the initiative in these activities, and in bringing

¹See findings on the "Inventory of Reading."

²See findings on the test, "Educational Attitudes."

consultants who are outstanding in the field. It might be desirable also for both critic teachers and group leaders to point out frequently and explicitly just why a teacher works with children as he does. It might be desirable also to provide further opportunities for students to explain what they do and see done in handling a child, or a class of children.

A matter for investigation by group leaders and others concerned with the integrated program would be the possibility of students having further contacts with youngsters during the first two years of college. Almost as many Sophomore-Juniors as Seniors reported having worked with groups of youngsters--1.4 groups on an average.¹ It would seem as if students work with groups of boys and girls primarily during their underclassmen days. If all underclassmen had this experience prior to their professional education, their common experience could be capitalized on in discussions of child development and behavior in the integrated program. This possibility should be given careful consideration.

Another major challenge to those responsible for the integrated program arises from data showing that students and teachers are most sensitive to scholastic needs of a child, somewhat less sensitive to health needs, and comparatively insensitive to affectional needs.² They do not recognize the possible influence that insufficient "security" at home, or insufficient "adequacy" at school may have on a child.³ They minimize the importance of parental affection and of peer relations. They overlook the importance of teacher-pupil rapport. Further understanding of "Emotions and the Educative Process"⁴ should be developed in the integrated program. Such understanding should be more nearly on a par with understanding about scholastic needs of a child. As Prescott has pointed out,

Each person who is going to be a teacher, we believe, must know the major generalizations and facts about human de-

¹See findings on the inventory, "Activities of a Student."

²See findings on the "Case Study Instrument."

³The terms "security" and "adequacy" are used here in the sense in which James S. Plant uses them.

⁴Daniel Prescott, Emotions and the Educative Process. Washington, D.C.: American Council on Education, 1938.

velopment. The teacher will have as a second task that of learning what he has to know about a child in order to make a diagram of where he is in the course of his growth and what his major developmental problems are at a given moment. The third task is to develop skill in gathering this information and in interpreting it with regard to individual children. And of course his fourth task is to learn how to arrange and improve conditions so as to make them optimum for the child at the moment--how to maintain relationships between himself and the children, between children, and perhaps even to influence relationships between children and parents, Then he has to learn how to arrange experiences through which the child may actually learn the things which he has to learn in order to grow up in our culture with an understanding of it.¹

Specific inadequacies of students and teachers from the integrated program may be mentioned to illustrate the need for further experience calculated to sensitize prospective teachers to non-scholastic needs of children. These teachers, prospective and in-service, were uncertain about the maintenance of a pleasant feeling tone and the cultivation of happiness in classroom situations.² They saw only limited application of the principle, "Pleasantness facilitates learning." They considered the child's need for expressing himself creatively a relatively unimportant factor.³ They had limited awareness of the influence of socio-economic factors in a child's life. However, less than one-fifth of the students considered such factors irrelevant.⁴ The concern of students and teachers in getting more information about a child's skill in reading was significantly greater than their concern with learning more about his social and emotional reactions. They were also more concerned in getting additional information about a child's health record than they were about his behavior with playmates or his emotional behavior. Understanding of children's needs should be much broader among those from the integrated program.

Parental and community relations.--Important in knowing a child is knowing his home and parents, and the community of

¹Commission on Teacher Education, The School for Executives, p. 101. Washington, D.C.: American Council on Education, 1942.

²See findings on "Factors in Working with a Class."

³See findings on the test, "Factors in Working with a Child."

⁴See findings on the test, "Case Study Instrument."

which they are a part. Students showed considerable understanding of the relation of the school to the community¹ and of the influence that the home has on the life of a child.² However, the interests,³ understandings, and beliefs that students have in these areas are less adequate than their understandings and attitudes⁴ in regard to children and to classroom teaching.

The finding which highlights the limited understanding of the relation of school and community is the fact that teachers who were graduated from the integrated program reported only twenty-five parental conversations in the course of a school year.⁵ This is an understatement of such conversations, no doubt, yet it indicates that in some way the integrated program must become more effective in developing awareness of school-community interrelations. School and parents must work together in their mutual responsibility for helping a child to develop at an optimum rate.

More opportunity for student teachers to know parents might be provided through participation in conferences that critic teachers have with parents. Informal contacts might well precede such conferences--for instance, getting acquainted with parents who call for their children at school, or participating in a social period following a program presented by pupils for their parents.

Limited contact with parents is only one aspect of limited responsibility in the local community. The participation of students in community group activities was less for Seniors than for Sophomore-Juniors.⁶ Nor was the participation of teachers in community affairs any greater than the participation of students, according to their reports.⁷ In these facts lies a

¹See findings on the test, "Educational Attitudes."

²See findings on the "Case Study Instrument."

³See findings on the "Interest Instrument."

⁴See findings on the test, "Educational Attitudes."

⁵See findings on the inventory, "Activities of a Student."

⁶See findings on the inventory, "Activities of a Student."

⁷See findings on the inventory, "Activities of a Teacher."

challenge for improvement in the education of elementary and kindergarten-primary teachers. Teachers should take a leading part in community affairs.

One way in which students become a part of the community during the time they are in college is through their work experiences. More than three-fourths of them have worked during school years or summer vacations. Since few of the students have participated in sociological courses which might have helped them interpret those experiences in relation to the role of a teacher in our society, perhaps the integrated program could develop further understanding of work experience.

Half of the students as Freshmen or Sophomores have participated in the work of social agencies of the city. They have thus gained experience in coöperating in a community enterprise, as well as in working with youngsters. If such activities were a part of the underclass program of all students in the integrated program, they could be drawn upon in furthering understanding of the relation of education to other social processes of the community.

Data from tests show that the integrated program is effective in developing certain social concepts; a belief in equality, in democratic practices in classroom teaching, and in encouraging student initiative.¹ The program is less effective, however, in developing awareness that "School activities should be planned with a view to developing desirable adults for our society."² This principle was not considered widely applicable to described classroom situations. Greater awareness of the function of the school in our society would be desirable in students in the integrated program.

Professional development.--In the integrated program, students lay a foundation for professional growth in service. Their attitudes in relation to professional problems are formed during the program and remain unchanged in service.³ Furthermore, sureness as to what teacher behavior is desirable in the

¹See findings on the test, "Educational Attitudes."

²See findings on the test, "Factors in Working with a Class."

³See findings on the test, "Educational Attitudes."

classroom, and awareness of the educational principles violated by certain undesirable teacher behavior is developed in the program and persists in service.¹

Another ability that teachers should develop during the period of their professional education is the ability to locate information that a teacher needs. Yet, in the present study, test results did not show that Seniors and teachers differ significantly from Sophomore-Juniors in this ability.² A difference as large as or larger than that between the test scores of Seniors and Sophomore-Juniors was a difference to be expected somewhat more than five times out of one hundred, on the basis of chance. Considering the homogeneity of the population, considerable credence could probably be put in this evidence of growth during the integrated year. However, the possibility of bringing about greater improvement in the ability to locate information needed by teachers is a challenge to critic teachers and group leaders concerned with the integrated program.

Students of the program also develop habits of reading professional books and magazines, as well as non-professional books, magazines, and newspapers.³ As teachers they read three professional books and half a dozen other books each year. They also read three or four professional magazines and three or four others, as well as a newspaper or two. Such reading should be a major factor in their continuing to grow as teachers. So should their considerable attendance at cultural events.⁴ Their membership in professional organizations should also be a factor in their professional growth. Two-thirds of those graduated and teaching reported belonging to two professional groups.⁵ One-fourth of them were interested in those professional organization when they were students. About half of them reported studying during the summer.

¹See findings on the tests, "Factors in Working with a Class," and "Factors in Working with a Child."

²See findings on the test, "Locating Information as a Teacher."

³See findings on the "Inventory of Reading."

⁴See findings on the inventory, "Activities of a Student."

⁵See findings on the inventory, "Activities of a Teacher."

They took courses; they visited schools; they attended educational conferences. Such activities are desirable aids to further professional development.

That teachers from the integrated program continue to grow professionally is apparent from findings which show scores of teachers to be significantly different from those of students. Only as teachers did students come to accept the idea that there should be freedom for communication and for action.¹ Only as teachers did they relate educational principles especially to teacher activities concerned more with children than with subject matter.² Only as teachers were they more sensitive to non-scholastic needs than to scholastic ones.³ Furthermore, as teachers they read more in some respects than they did as students.⁴ The integrated program apparently stimulates both immediate and subsequent growth.

Several characteristics which are considered assets in teachers are ones which students at Milwaukee State Teachers College already have when they begin their professional education. Students are objective in their relations with both adults and children.⁵ They are interested in activities of teachers.⁶ They identify as desirable, teaching which is based on knowledge of the strengths and weaknesses of a class.⁷ They are willing to modify their tentative explanations of a child's behavior on the basis of further information.⁸ Since these are characteristics which students have on entrance to the integrated program, their further development need be given only a minimum of attention.

Data from the present study indicate other characteris-

¹See findings on the test, "Educational Attitudes."

²See findings on the test, "Factors in Working with a Child."

³See findings on the test, "Case Study Instrument."

⁴See findings on the "Inventory of Reading."

⁵See findings on the test, "Objective Attitudes in Personal Relations."

⁶See findings on the "Interest Index."

⁷See findings on the test, "Factors in Working with a Class."

⁸See findings on the "Case Study Instrument."

tics of students which should be given greater attention in the integrated program. Those responsible for the program should consider:

1. How to develop teachers who will easily establish and maintain good rapport with pupils and parents.
2. How to provide meaningful problems for students to solve through the use of the most efficient sources of professional information.
3. How to provide experiences which will increase interest in activities of the teaching profession, and will make that interest more nearly equal to the interest in classroom activities.
4. How to help students develop greater certainty about what teacher behavior is desirable. More specifically, students need to know the extent to which:
 - a. Individual appeals should be used to motivate behavior.
 - b. Commands should be given to children.
 - c. The problem of an individual child should be brought to the attention of the class.
 - d. Pupil interests should be used as points of departure for learning activities.

Summary

The major detailed findings from the evaluative instruments devised in this study have been summarized in this chapter from two points of view. First, they were succinctly stated with respect to each of the nineteen kinds of behavior expected of teachers going out from the integrated program. Second, they were reviewed in relation to the three kinds of situations in which a teacher works: classroom, community, and professional situations. These summaries constitute a description of the product of the integrated program. They show also the respects in which the integrated program is demonstrably effective in changing a particular behavior or pattern of behavior of prospective teachers both during and after participation in the integrated program.

CHAPTER VII⁺

OUTCOMES OF THE EVALUATIVE STUDY AT MILWAUKEE STATE TEACHERS COLLEGE

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Major Contributions of the Study

The evaluative study has made four major contributions to the integrated program at Milwaukee State Teachers College: (1) Objectives of the program have been made explicit. They can now serve as a basis for considering further modifications in the program. (2) Evaluative devices have been constructed for getting evidence about the objectives. These can be useful both in further studies of the program, and, as instructional devices, in the program itself. (3) Strengths and weaknesses of the program have been determined, and can serve both as a source of satisfaction and of stimulation. (4) Meetings of those concerned with the integrated program have been provided for. These can serve as a channel of communication, and as occasions for professional growth. . . .

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Minor Contributions of the Study

To the extent that the evaluative study has been an integral part of the integrated program, it has contributed to it. Consideration of three of the recent modifications in the program will illustrate three ways in which an evaluative study can function as one of the internal forces of a dynamic program. First, it can simply furnish data that corroborates the worth of a change already arranged for, thus adding to the confidence of those concerned in the change. The extension of practice teach-

⁺Pages 225-226 are excerpts from chapter vii of the complete dissertation, which is to be found in the University of Chicago Libraries.

ing facilities for the integrated program illustrates this contribution of an evaluative study. Second, it can further an existing interest in some needed change. The trial of a plan for a curriculum laboratory illustrates this value of a study. Third, it can develop a sensitivity to an area in which change is needed. Focusing attention on the place of art in the program illustrates this contribution of a study.

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Summary

Direct outcomes of the evaluative study included the formulation of a list of program objectives, the devising of evaluative instruments with which to study those objectives, and the determination of strengths and weaknesses of the integrated program. These three tangible outcomes should be especially useful in improving the integrated program further. Also useful in program improvement will be the machinery now set up for regular meetings of those responsible for the integrated program. "Collaboration in a society can not be left to chance,"¹ nor can it be in an institutional program. The voluntary meetings of group leaders and critic teachers should constitute a major aid in collaboration within the integrated program.

Program improvements to which the evaluative study contributed to some extent included the extension of practice teaching facilities, the trial of a plan for a curriculum laboratory, attention to the closer articulation of art with other aspects of the integrated program, and stimulation of further interaction of academic and educational departments. Two perennial problems with regard to the functioning of the program need further consideration by critic teachers and group leaders, namely:

1. How can induction into practice teaching be more smooth?
2. How can student growth prior to service as a teacher be maximized?

¹F. J. Roethlisberger, Management and Morale, p. xix. Cambridge, Massachusetts: Harvard University Press, 1942.

